

# ARCHITECTURE

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## THE NEW YORK CARNEGIE LIBRARIES.

NOTWITHSTANDING all rumors to the contrary, the library trustees have placed the designing and building of the forty-two libraries for the boroughs of Manhattan, Bronx and Richmond in the hands of Carrere & Hastings, Babb, Cook & Willard, and McKim, Mead & White. These three firms will collaborate on a general design—as far as practicable—and are now studying the problem. The trustees state that it is undecided whether any other architects will be called upon later to assist.

FIVE sites have been decided upon for libraries to be erected in Brooklyn under the Carnegie gift, and the commissions have been awarded to Lord & Hewlett, W. B. Tubby, R. L. Daus, Walker and Morris and R. F. Almirall.

IT IS evident that a decided attempt will be made, during the coming session of the Legislature of the State of New York, to amend the Tenement House Act of last year. The importance of this legislation to New York City can be best realized by a study of the building statistics for the last ten years. But 15,000 houses in New York are now occupied exclusively by one family, and this number is decreasing year by year. In 1889 over 600 private residences were erected in the present Borough of Manhattan, at an average cost of about \$17,000, while, during the last year within the same territory, permits were applied for for less than 100 such houses, at an average cost of over \$50,000. Unless the underground road solves the problem within the next few years, every New Yorker who dwells under his own separate roof may be safely counted as a man with a large bank account.

THE architects of New York are to be congratulated upon the appointments made by President of the Borough-elect Cantor, for the new Superintendent of Buildings and the Chief Inspector for the Borough of Manhattan. While most architects have felt that the chief position of Superintendent should be held by one of their own profession, it is quite as important that the second office, with whom the architects are apt to come in more continuous contact, should be filled by a man of unquestioned technical ability. Mr. William Martin Aikens' record as Supervising Architect of the Treasury Department at Washington, proves beyond peradventure that his appointment is one with which the profession will be more than satisfied; while Mr. Perez Stewart's reputation, both as a builder and a public official, will be a guarantee of honesty in his department.

IN THESE days when the relative merits of cast iron and steel for the purpose of skeleton buildings is the subject of so much discussion an experiment now being tried by Israels & Harder, a firm of New York architects, is of more than passing interest. They have charge of the reconstruction of the building No. 6 East 18th Street and No. 5 East 17th Street, which was partially completed by a speculative builder some six months ago, and by whom all of the walls were erected and the

## REGISTRATION BUREAU FOR DRAUGHTSMEN.

This bureau is established for the use of architects wanting draughtsmen and draughtsmen wanting positions, free of expense to either party.

All draughtsmen wishing positions may register by answering the following questions:

Name and address?

Married or single?

What experience have you had?

Name and address of last employer?

Salary expected?

References?

All architects wishing draughtsmen are invited to use this bureau.



roof put on. During the recent autumn a building was constructed on the southeast corner of Fifth Avenue and 18th Street, abutting upon the 18th Street end of the building in question, and in sinking the caissons of the corner building the wall of the adjoining building buckled at the second story about six inches, and sprung over to the westward eight and a half inches, making a total lean of fourteen and a half inches from the roof to the inside of the buckle. The building is eight stories high and constructed with cast iron columns and steel beams bolted together, and all parties concerned, including two prominent engineers with whom the architects consulted, believed that this condition of affairs indicated beyond any reasonable doubt that not only were a large number of the bolts sheared, but also that it was reasonably certain that a number of the cast iron lugs would be found to be cracked or broken. In order to get the building back in position it was decided to strip the frame of the damaged portion of the building of all its masonry load preparatory to attempting to jack the same back in position. This work is now done and preparations are being made to get in the screws, and the architects report that a most careful examination of the frame discloses that all of the metal work is intact throughout except at one column at the third story where there is a slight crack at a base flange close to the bolt hole. Not even one bolt was found to be sheared and except upon the lower two stories and at the shoes of the wall columns (which are at the first story level), no indications could be found of any horizontal disturbances at the connections. Even at these points the movement was not more than one-sixteenth of an inch. The entire bend of over fifteen inches was evidently taken up evenly in the deflection of the metal, which without any artificial assistance sprung back into position of its own accord for a distance of two inches upon being relieved of the wall load. These results ought to form a valuable contribution to the discussion of a very live subject.

THE Committee on Plan and Scope of the Technological Schools which Mr. Andrew Carnegie proposes to build and endow in Pittsburg have, at the request of members of the profession in that city, included in the scope of the proposed schools a department of architecture. This action is the subject of an interesting comment in a contemporary professional mag-

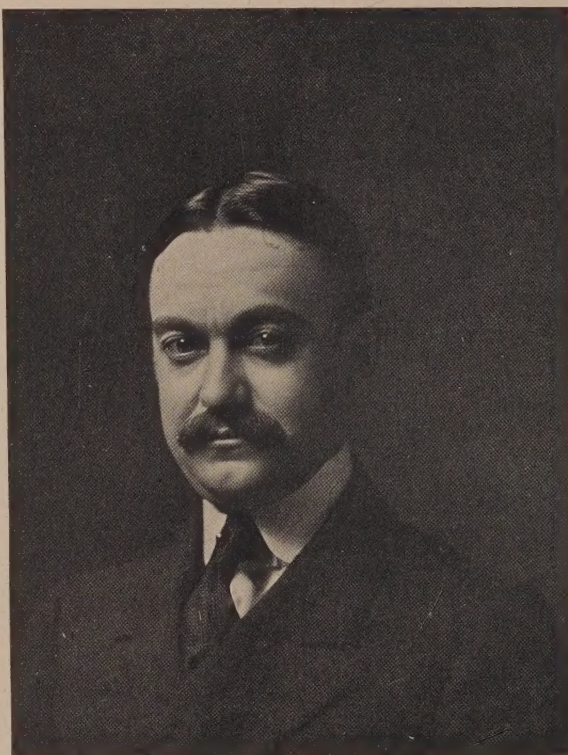
azine (The Brickbuilder), and it is in defense of the architects' action that we make the following reply: While heartily agreeing that "there should be a high standard, and that the best should be cultivated to the greatest possible extent," we are not prepared to admit that it is undesirable "to increase the area of the planting bed." It is not the hard-working, ambitious apprentice in an architect's office who aspires to the Ecole de Beaux Arts, but the young man who, having tasted learning's spring in the less famous schools of this country, longs for a deeper draught. The insinuation that the establishment of this school would result in "a multitude of scantily educated, partially equipped architects," is a reflection on the abilities of the men who have so judiciously handled Mr. Carnegie's endowments that within a very few years they have created the Carnegie Institute,

an Art Gallery, a Museum and a Music Hall, with its permanent symphony orchestra, that suffer not at all by comparison with the best in the country. It is safe to assume that in the Carnegie Technological schools nothing will be done by halves. Granting that the present "architectural setting" in Pittsburg is not all that it should be, there is reason to believe that the metamorphosis that is taking place in Philadelphia, for example, is slowly making its appearance in Pittsburg. That "it is not a kindness to a young architect to encourage him to be content with anything but the best or to lead him to think that anything but the best will answer his need," no one will deny, but we cannot see how the establishment of this proposed school would result in such encouragement, or be likely to do more harm than

good" as the writer puts it. While recognizing the "abundant opportunities for increasing the effectiveness of our present schools," we cannot accept the view that the establishment of new ones on a thorough basis in a locality where none now exists, is a detriment to the architectural welfare of the country.

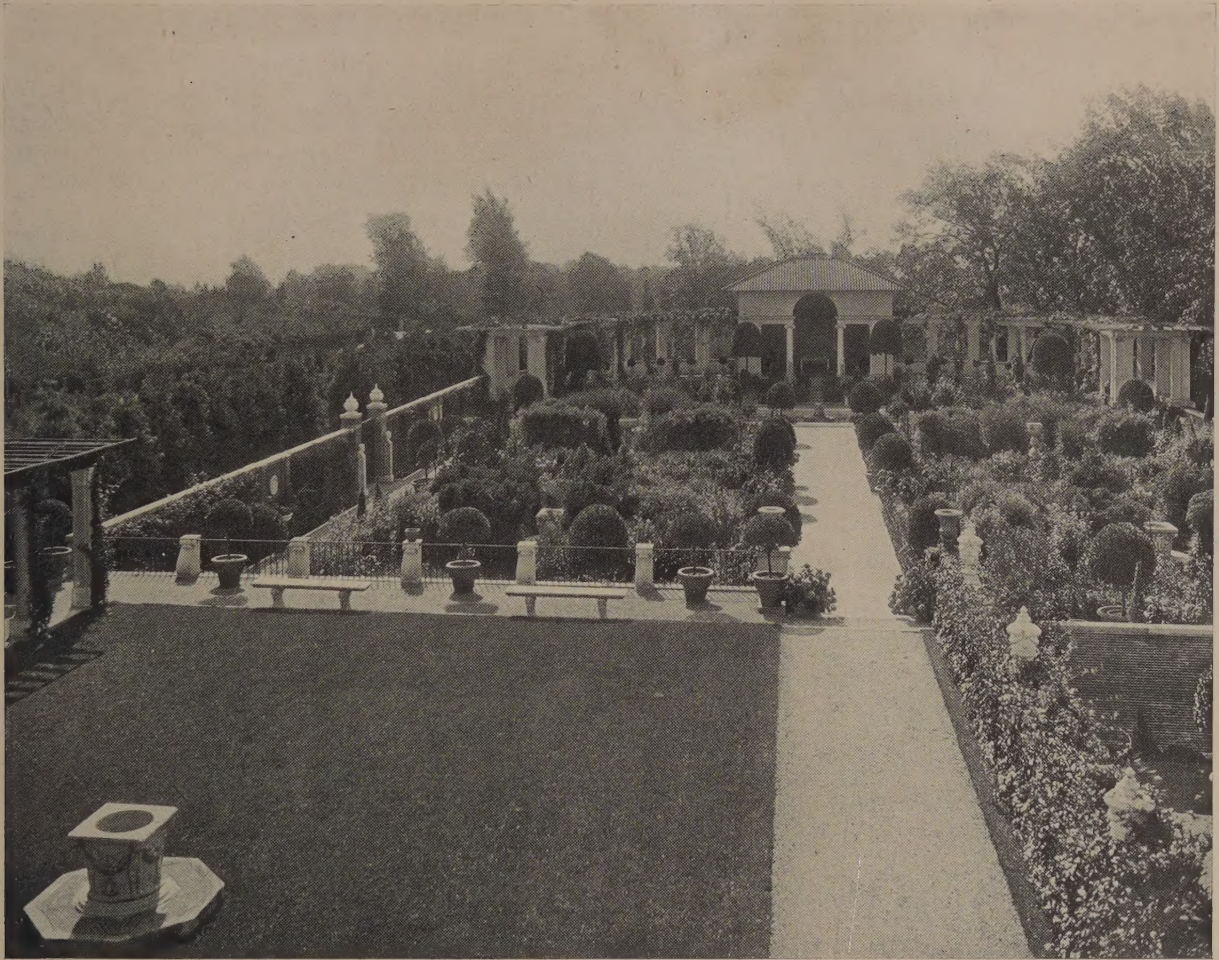
THE following advertisement, which appeared recently in a Pennsylvania paper, shows how architecture is practiced by enterprising (?) firms in some cities:

**BUSINESS**—A firm of experienced and practical architects will pay for information in regard to new buildings or repairs projected for the coming year; preliminary sketches and estimates rendered without charge.



MR. HORACE TRUMBAUER.





T. E. Marr, Photo.

Chas. A. Platt, Landscape Architect.

ITALIAN GARDEN, HON. CHAS. SPRAGUE, FOREST HILLS, MASS.

THE N. J. Chapter A. I. A. through its secretary, Mr. Hugh Roberts, invites architects, draughtsmen, librarians and others interested, to attend its course of lectures to be held in Newark during the Winter. Among the lecturers will be Frank Miles Day, A. D. F. Hamlin, Julius Harder, R. W. Gibson, James Owens and A. Holland Forbes.



The annual exhibition of the T-Square Club, Philadelphia, will open Sunday, January 5th, for two weeks.



THE season's work of the Detroit Architectural Club will consist of four lectures by architects of national reputation, and classes in design and steel construction. The former class is to meet Thursday evenings and to be taught by Architect J. W. Chase; the latter to be given on Monday evenings and to be conducted by Mr. Walter O. Chaffee, a graduate of the Boston Institute of Technology. The following is a list of the committees, with their chairmen: Entertainment, J. C. Gillard; House, John J. Fraunfelder; Class, Dalton R. Wells; Exhibition, Francis S. Swales; Publicity, Adolph Eisen.

ARCHITECTURE takes pleasure in publishing the following important circular sent to us by the Art Department of the Louisiana Purchase Exposition, which is to be held in St. Louis in 1903.

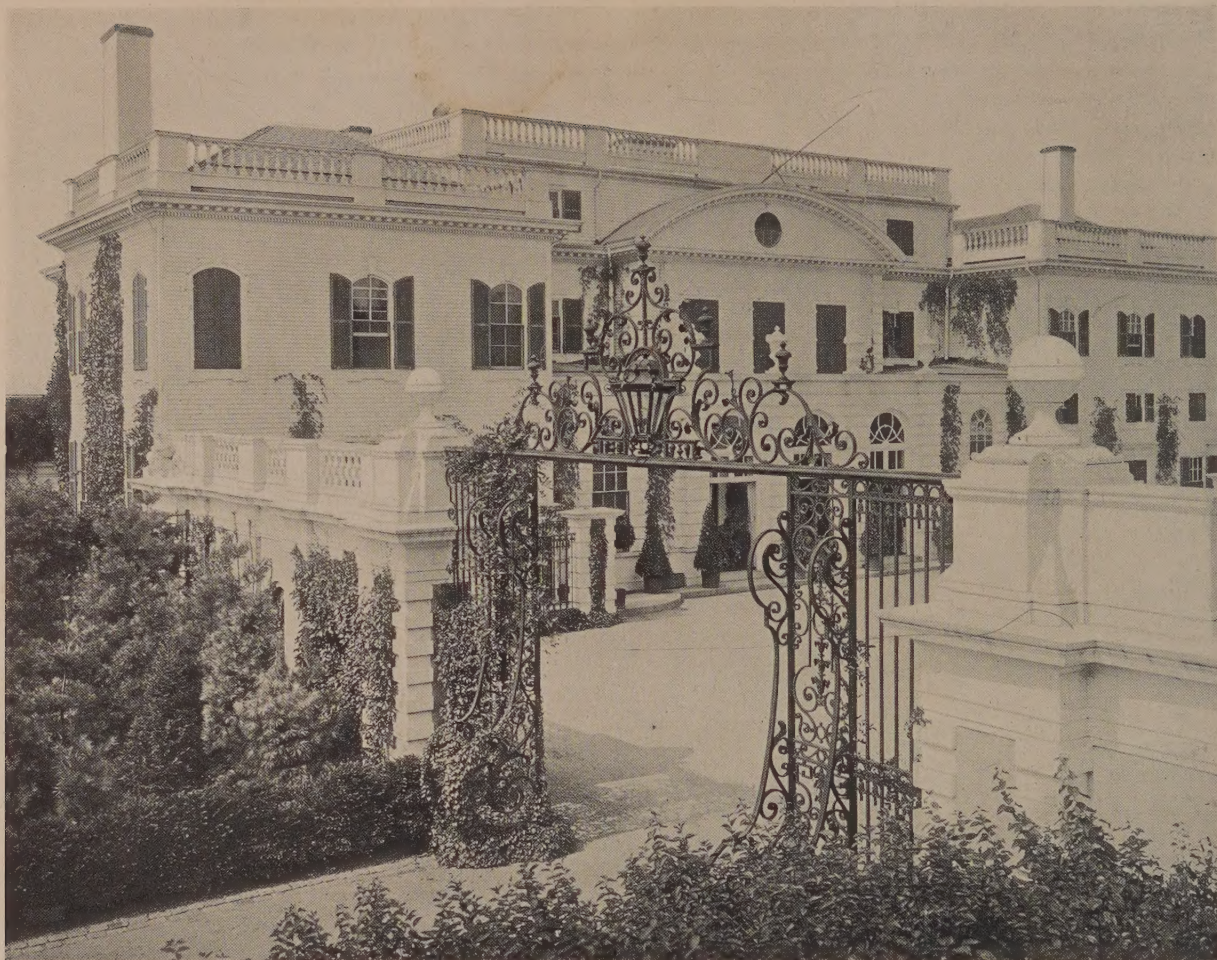
It is evident from the terms of the circular that a considerable effort is being made to obtain a more than usually creditable exhibition of architecture and the allied arts. It is to be hoped that the profession will respond in kind:

The Department of Art of the St. Louis World's Fair desires to make the Exposition of the artistic side of architecture as comprehensive as possible, and to this end seeks the co-operation of the architects of the world and of other artists who work in conjunction with them, in sculptural adornment, mural decoration, etc.

As an illustration of the breadth of interpretation of the classification in this group, structures erected upon the Exposition grounds—either by the Exposition authorities or by private enterprise—with their sculptural, pictorial, decorative or other artistic details, may be entered in competition for such awards as may be conferred under a system to be announced later—provided, of course, such structures or decorative details be accepted as exhibits by the proper jury of selection.

For the first time at an International Exposition special galleries will be provided for the installation of models of buildings, sculptural decorations, mural paintings, wood carvings, pyrographic designs, mosaics, leaded and mosaic glass, drawings





T. E. Marr, Photo.

Chas. A. Platt, Landscape Architect.

GATEWAY BETWEEN GARDEN AND FORE COURT, HON. CHAS. SPRAGUE, FOREST HILLS, MASS. House designed by Little & Browne, Architects.

and photographs illustrating projects, structures already completed and original decorative details. It is hoped that in this group examples of recent noteworthy constructions in every country will be shown, so that intelligent comparison will be afforded.

The architectural and allied exhibits belonging to the Department of Art are covered in the classification by Groups IX., XI. and XII. It will be noted that building and construction (from the standpoints of engineering and mechanics) are not included in the Department of Art. These subjects will be classed under the heading: "Civil Engineering" in another department.

As is explained by the Rules and Regulations of the Department of Art, all foreign architects or allied art-workers belonging to the countries represented at the Exposition by a Government Commission or a National Committee of Architects, will secure representation at the Exposition only through such commission or committee. Architects and their co-art-workers in the United States may correspond directly with this Department. Their works will be considered by various juries to be constituted as will be explained in a future circular.

Any further information will be furnished on application to the Department of Art.

HALSEY C. IVES, *Chief of the Department of Art.*

THE garden and surroundings are everything to a house. A handsome house standing in grounds not designed to conform to it can best be compared to a man dressed partly in the height of fashion and

without his collar. The gates, entrance, roadways, the whole grounds, must be subordinate to the house in so far as being designed by one mind or carried out under one direction. The landscape architect must be under the control of the architect of the house. There can be no division in design. The architect who sets out to design a house must approach his problem in the spirit of an artist, and be prepared to produce a work of art. That end will not be reached unless everything, every part, is adapted to every part. If you don't feel your house, and feel where it goes, you are lost. It is often necessary to design on the site itself, and the best results are obtained when that is done.—Bruce Price.

ENGINEERING experts from England visited the United States a year or two ago to ascertain, if possible, the reasons for America's ascendancy in the industrial world, and of late small parties of picked workmen from that country have been sent over here to study mechanical methods and devices. France has now in contemplation a similar but more permanent policy. She proposes to establish on this side of the Atlantic a technical school for the benefit of her own



young men. The programme has been roughly blocked out by the French Minister of Commerce, and he will appoint a committee to work out the details. Thus, Continental Europe, like Great Britain, is illustrating the soundness of the old military maxim, "It is legitimate to learn from an enemy." Americans can afford to extend all possible encouragement to schemes of this kind. They have nothing to fear from the advantages which their rivals will derive from such scrutiny and imitation. The truth is that, while foreigners are copying what appear to be the latest American ideas, the American industrial genius is continually originating new ones. Hence, in these material matters this country manages to keep at least five or ten years ahead of Europe.

### FIRE-RESISTANCE A FACTOR IN DESIGN.

A. C. THOMAS.

**A**FTER the requirements of accommodation, structural stability, and sanitary needs, the architect's attention cannot be more usefully directed than in lessening the risk of fire in his building. Planning, scientific construction, hygiene, and various subsidiary questions all have been treated with more or less minuteness and attention by writers and authorities on archi-

itecture; but the question of fire-prevention or resistance has been left in the hands of experimentalists and inventors of floor systems. Experimental investigations and tests that are of much value and interest to the profession continue to be made, especially those conducted on scientific principles, and without any taint of mere commercialism. But we have not seen any attempt to bring the principles of fire-prevention and resistance into line with other matters of construction, or to make them a branch of the education of architects. The subject of fire, in short, has been treated too much as one of mere accident, as we should treat violent storms and hurricanes, or heavy rainfalls, which occasionally destroy or damage our buildings and engineering works, and, therefore, being exceptional and erratic, are not deserving of serious attention. Yet the destructive action of fire has as much right to be considered and prepared for as a hurricane or tornado. Why should not the laws which prevent and arrest fire be equally regarded and considered in our design? It may be that gales of wind and destructive tornadoes are more common and recurring than fires, but they are not more destructive. We think, at least, that the action of fire and the laws of its progress should be made a branch of study, and that an architect in making his plans and designing his construction ought



T. E. Marr, Copyright, 1901.

PAVILION, GARDEN, HON. CHAS. SPRAGUE, FOREST HILLS, MASS.

Chas. A. Platt, Landscape Architect.





T. E. Marr, Photo.

Chas. A. Platt, Landscape Architect.

PERGOLA AND FOUNTAIN BASIN, GARDEN, HON. CHAS. SPRAGUE, FOREST HILLS, MASS.

to set himself to consider the question of fire-resistance as he would the force of gravity and any stress due to it or other forces external to the building; to consider, for instance, the initial stage of a fire, how it may begin and be fed by combustible material, in what direction it spreads, the weak points in the line of attack, and the reason, such as the existence of draughts or currents of air; apertures, or openings, the position of inflammable materials, and in what manner flame or heat attacks them. With all our facts and accumulated data we have scarcely any definite knowledge of the course fire selects for its path, the "line of least resistance," so to speak, of its onward progress, and the conditions that favor or resist it. We know a few things, but not perfectly. We know that a draught increases the combustion; that staircases, hollow columns, and partitions are means by which this draught is set up and made agents for rapid ignition. And conversely we know that where we can prevent draught and produce a stagnant condition of the air, the oxygen is soon consumed and combustion is diminished or rendered inert; if we close the doors and windows of a room on fire, its progress is very slow; in a word, if we confine the fire to a small area, it will often abate after the inflammable material in the room has been consumed. How to turn these facts to the best

advantage is one of the duties of the architect, as well as the fire-brigade. The former can aid the efforts of the firemen by enabling certain portions of a building to be easily cut off from the other portions, by continuous walls and fireproof partitions and floors, by incasing girders and columns with fire-resisting material, and by other means. Without such structural aid, the efforts of the firemen are increased a hundredfold, and may prove unsuccessful.

Fire-resistance may be systematically studied by the architect, in relation to plan, construction, and details. We allude mainly to buildings of a large cubical capacity, to lofty structures especially erected for dwellings and commercial purposes in our large towns. In the arrangement and design of these buildings, the architect is compelled to arrange his plan according to the actual requirements of accommodation, or the demands of business. If it is a large warehouse or factory, ample communication between the floors is necessary by means of staircases and elevators, and the floor areas usually must be large and unrestricted by walls and partitions—conditions which are favorable to the spread of fire from one floor to the others. The best he can do in these circumstances is to make each story a risk in itself, and to make it as self-contained as possible; in other



words to inclose such story by walls and floors of incombustible materials, and so arranged as to be cut off from stories above and below it. But it is possible sometimes, and indeed imperative, in towns where the area is large, to divide each floor into separate "risks" by brick walls, by carrying them up the whole height of building, by which means, if a fire should originate in one room it could be confined to the same room, or be cut off from the other portions by such walls.

In arranging his plan the architect should have as many vertical through-walls as he can without inconvenience, and avoid as much as possible wood partitions, which connect the risks and provide fuel of a combustible nature. In the arrangement of his staircases and elevators they should, if possible, be cut off or partially isolated and inclosed by walls of good thickness. These communications connect the stories and help the combustion, and, therefore, to place them in or near the centre of the building is to increase very materially the risk and the danger to life. If they must be so placed, they ought to be inclosed on all sides by brick walls, with fire-resisting doors that can be easily closed on an emergency; and the steps in the one case, and the lifting-cage in the other, should be of incombustible

materials. A little exercise of thought would place them in a position removed from the storage of any inflammable material that may easily become ignited. We know of large warehouses where the elevator ascends through the showrooms hung with cotton textiles and bales of goods, where there would be little chance of escape if a fire occurred in its proximity, unless there were other elevators or stairs. If the architect would, when planning his staircases, think of them as means of escape in case of fire, so that they may be arranged quite independent of the floors and rooms, or be able to be cut off at a moment's notice, half the battle with the devouring elements would be saved.

Disconnection of all vertical combustible materials should, if possible, be arranged. If we could shut up a fire in one room or story, the danger would be reduced to a minimum. To do this we must have incombustible floors that will not be burnt through too quickly, or we should endeavor to prevent any vertical connection of combustible parts of the interior, such as wooden partitions over one another, or lines of hollow columns, which convey flames from the lower to the upper floors. Not a few of the recent fires in the high buildings of New York have been assisted by means of the hollow tubes



T. E. Marr, Photo.

Chas. A. Platt, Landscape Architect.

GARDEN WALK AND GATES, GARDEN, HON. CHAS. SPRAGUE, FOREST HILLS, MASS.





T. E. Marr, Photo.

Chas. A. Platt, Landscape Architect.

GARDEN WALL, GARDEN, HON. CHAS. SPRAGUE, FOREST HILLS, MASS.









W A Cooper, Photo.

DINING ROOM, RESIDENCE, E. J. BERWIND, NEWPORT.

Horace Trumbauer, Architect.









W. A. Cooper, Photo.

RESIDENCE, E. J. BERWIND, NEWPORT.

Horace Trumbauer, Architect.









A. W. Cooper, Photo.

Horace Trumbauer, Architect.

ENTRANCE, RESIDENCE, E. J. BERWIND, NEWPORT.





W. A. Cooper, Photo.

Horace Trumbauer, Architect.

MAIN HALL, SHOWING STAIRWAY, RESIDENCE, E. J. BERWIND, NEWPORT.









W. A. Cooper, Photo.

Horace Trumbauer, Architect.

ENTRANCE HALL, RESIDENCE, E. J. BERWIND, NEWPORT.









W. A. Cooper, Photo.

Horace Trumbauer, Architect.

MAIN STAIRWAY, RESIDENCE, E. J. BERWIND, NEWPORT.









LIBRARY, RESIDENCE, E. J. BERWIND, NEWPORT.

and pipe casings used for the inclosure of wires, speaking tubes, and other purposes. These have carried the flames upward to the stories above, through floors that are practically fire-resisting. Partitions and vertical hollow columns are therefore to be avoided, or specially constructed with reference to this danger. It is essential that a partition should have an effectual fire-stop under the floor, so that if the partition catches fire the flame will not communicate with the floor or partition above.

The experience gained from disastrous fires ought to convince us of the great risks which attend the construction of buildings in which wide corridors run from end to end of the structure without fire-division walls; and in this connection we may refer to the discussion on "The Height of Buildings," at the annual convention of last year. The fearful and rapid destruction by fire of the Windsor Hotel, New York, is still remembered. In plan it was built in the form of a shallow U, 200 feet in length, and the wings 180 feet in depth. There was an open court between the wings. The fire began in the basement, and spread with great rapidity. Wide corridors ran from end to end on every floor, thus creating horizontal flues for the passage of fire and smoke, and as the floors were not fireproof, but of open wood joists, they became practically vertical and elongated shafts from top to bottom

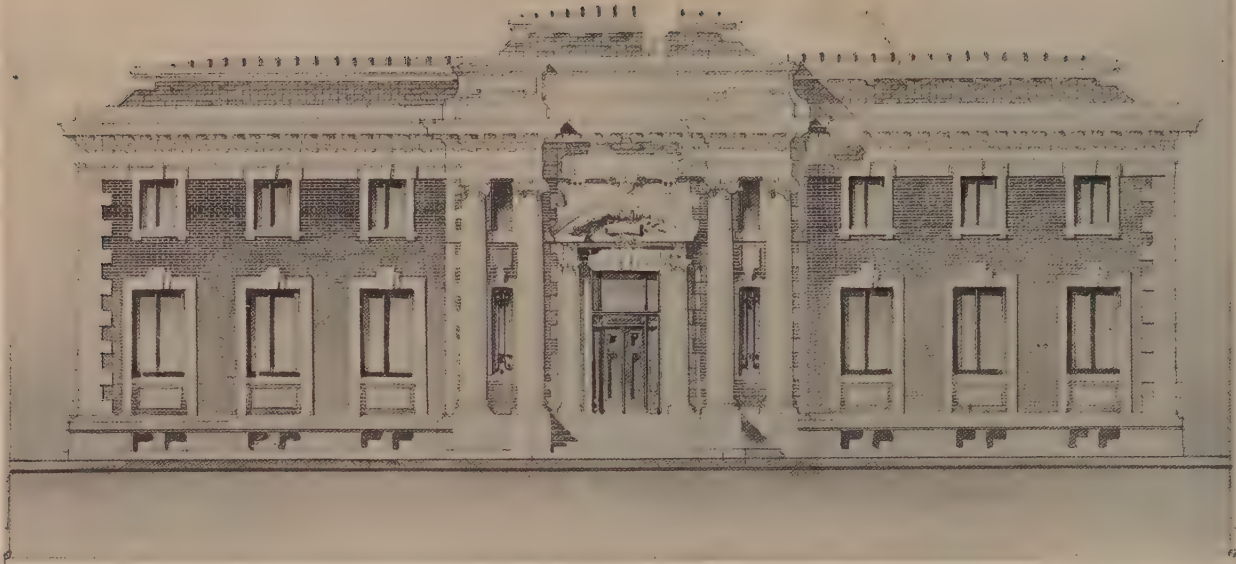
as well. The fire spread upwards through these corridors, and involved the front rooms which opened into them. The partitions were of wood and the internal finishings were of wainscot. A large watertank at the top of the building in centre dropped from top to bottom, and brought down the whole centre of hotel; in about fifty minutes the north and south walls fell, and the hotel was a mass of burning ruins. Fire burst from nearly every window. It is said that part of the structure was supported from the roof by tie-rods carried by girders or hung up. The hotel was seven stories in height. Heroic efforts were made, but many lives were lost. Another instructive example of a fire in the same city is that of the Home Life Building, 192 feet in height. A fire broke out in a five story adjoining building, and burnt out every floor of the higher building above its own height. One cause of this destruction was the existence of a court twenty feet wide used as a light court. This opening between the walls drew up the flames, and acted as a shaft, igniting all the higher windows.

In the destruction of the Washburn Mill, built on the "cage" system, the walls were mere curtain walls; the window-frames and sashes were all iron and steel, and the floors were made on the "slow burning" principle.



BREAKFAST ROOM, RESIDENCE, E. J. BERWIND, NEWPORT.





PROPOSED LIBRARY BUILDING (ACCEPTED DESIGN). Jackson, Rosencrans & Canfield, Architects.

The fire spread rapidly, and this was due, it is thought, to the fact that in one part of the building there was an oil-tempering room, and the vapors from the oil baths had condensed on the underside of the floors. Within from fifteen to twenty-five minutes after the fire began the columns yielded. But the iron and steel work were not protected. A fire at Pittsburg, Pa., is another example of a danger to tall buildings from without. An old building stored with combustible materials began the fire; the wind carried it to three high buildings of the so-called "fireproof" kind. The Joseph Horne dry goods store was of recent construction; care had been taken in building, the fireproofing material stood well, but the design was faulty. On the roof a 5,000 gallon water-tank was supported by unprotected iron and steel girders, and during the fire the tank fell from roof to basement, causing much destruction in its fall. There was also a "well" for light and air, which extended the whole height, and, as in other cases, proved disastrous by drawing up the current of air and causing the ignition of the other floors. Mr. T. Purdy, M. Am. Soc. C. E., has described the building and fire, and illustrated the fireproofing. Both in this and the Home Life Building the flames were deflected and drawn into the well, proving that a kind of siphon or sucking action is created in certain conditions. Where this is the case the windows become the vulnerable part, and unless they are filled with fire-resisting glazing or closed by steel shutters, the spread of fire is invited. Other high buildings that have been wholly or partially destroyed prove the elementary principle upon which all fires proceed—namely, that wherever a draught is created fire follows. Currents of air vertically or horizontally in a building become the motive power. Take any large ground-floor

story, say of a bank or restaurant; it is partly lighted through a "well" or court by means of a skylight in the rear. If a fire broke out by any accident, or any inflammable drapery caught fire, and there was sufficient fuel, wooden screens, partitions, counters, and furniture to burn, the fire could be put out by closing all the openings; but should the heat break the glass of the skylight, the flames would receive renewed life and vigor, and the well would be turned into a blast furnace, destroying everything combustible in its passage upwards. Perhaps we cannot easily close the well; but we may cut off all currents of air that feed it by closing the openings. These are facts patent to everyone; but when a fire breaks out there is a panic, and scientific measures are the last to be adopted. All long corridors can be divided if vertical wells cannot, and we can close them by fireproof partitions at intervals, the iron shutters being made to run into the cavity of the partitions between the rooms.

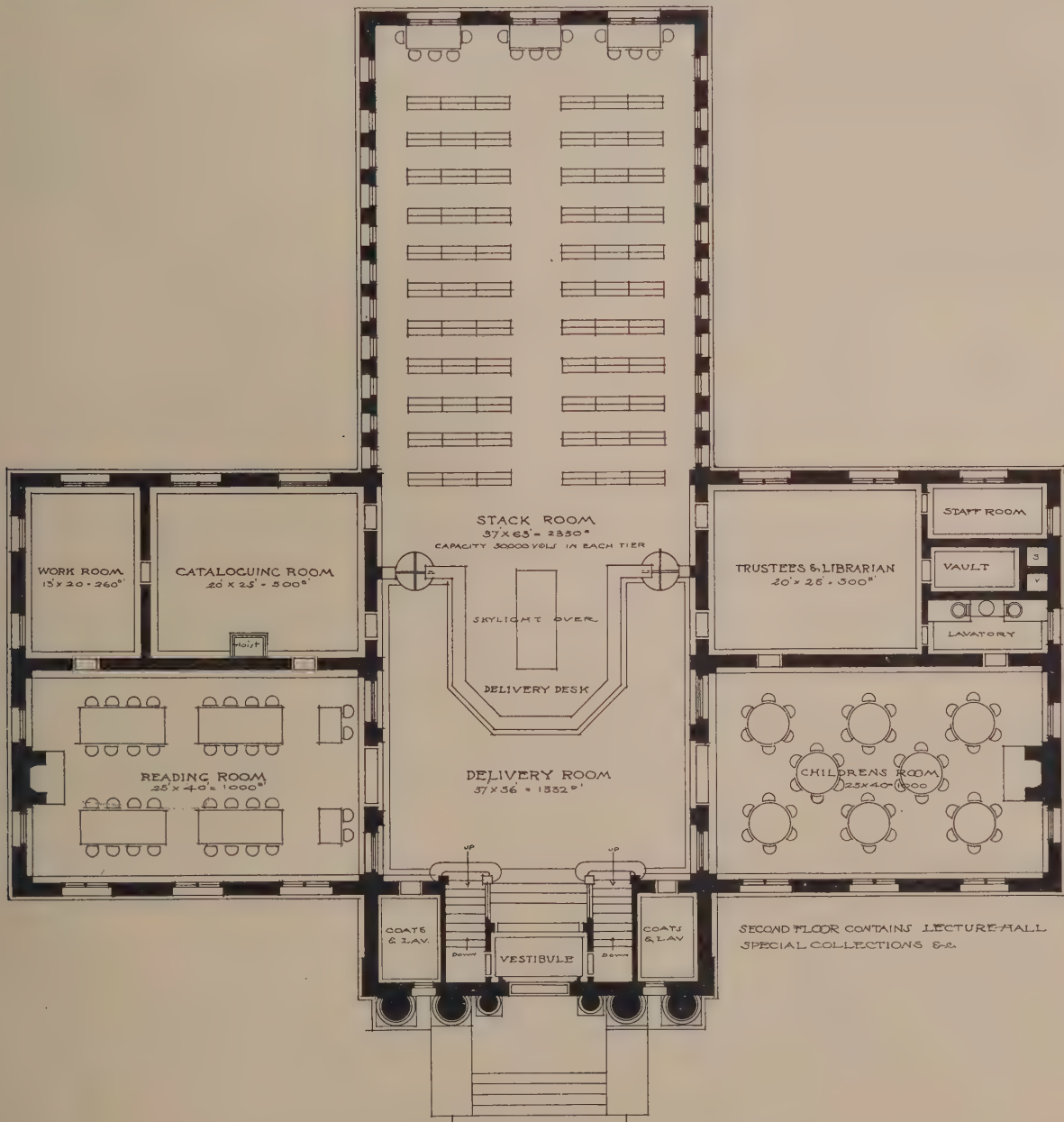
A good deal may be said on this subject, if space allowed. We have dealt with a few of the points the architect has to consider in meeting this common enemy. He must do everything he can to subdivide his large areas by fire partitions, and his heights by continuous floors of incombustible construction, to cut off all outlets vertically or horizontally, to clothe all his iron and steel, and to protect his windows and doors by adopting the most recent forms of construction. Remedial measures are another branch of this subject we do not touch; the architect can, and should, adopt what he can for prevention, and thus try to cope with the danger at its commencement, so as to lessen the labor of the fire department.



# THE ARCHITECT OR SPECIALIST?

ONE of the many questions discussed at the late Convention of the Architectural League of America was the relation of design to construction, or "Should design and construction be separated so as to train specialists on each of these lines?" There always have been those who have contended for separation. The early Revivalists certainly laid stress on design as the principal function of the architect, and exponents of architecture at various times have inculcated that the architect should confine his attention to the designing of buildings, leaving to the builder and engineer points of construction, especially in those buildings where any special construction was

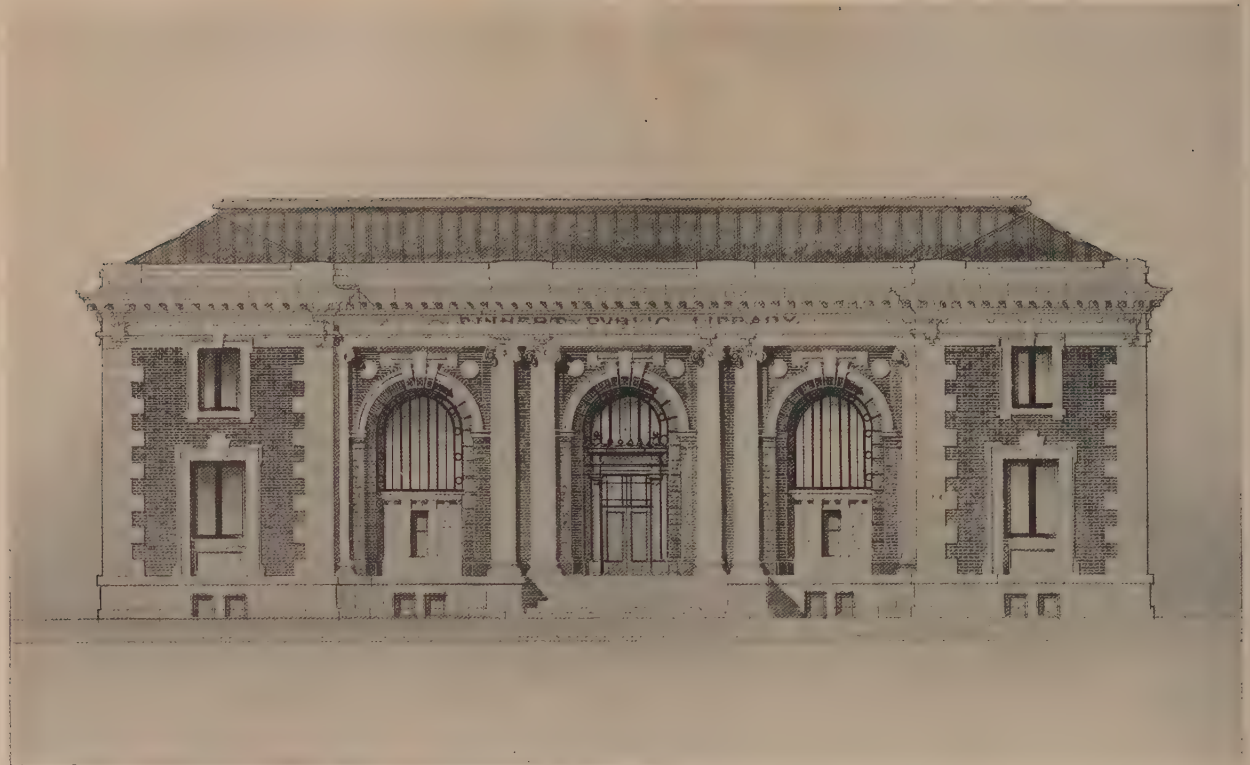
such as a roof of any size, or any ironwork. It has not been thought at all irregular for an architect intrusted with any great work to call in an engineering expert to design and carry out certain parts of the building about which the architect knew little. It is often more convenient to employ a specialist. The general medical practitioner relegates to a specialist the duty of prescribing in certain cases, performing special surgical operations; not that he considers the particular branch of medicine or surgery a distinct profession, but that a man practicing in one branch must be more skillful. And it is precisely for the same reason that the architect engaged in a general practice may occasionally call in the engineer or expert in steel to



FIRST FLOOR PLAN—PROPOSED LIBRARY BUILDING (ACCEPTED DESIGN).

Jackson, Rosencrans & Canfield, Architects.





PROPOSED LIBRARY BUILDING. Jackson, Rosencrans & Canfield, Architects.

assist him. Nevertheless, there are a few men in the profession who believe that it would be advisable to place all constructive matters and details in the hands of engineers or experts, as there are many who think an architect should never trouble about quantities or any matter of valuation, as not within his province. These advocates of subdivision of labor believe that by training a man in one groove of practice he acquires such expertness as to become beneficial both to himself and his employer, though this view of the practice, as we shall endeavor to prove, is only a partial one; the man of one groove becomes a machine and his work soulless. They also appear to think it not necessary that he should learn his art as a whole, but only that particular branch of it that he desires to follow: the consequence of which is that the specialist in one line, say, iron or steel construction, is never properly grounded in the elements of architecture, and his conceptions and details are often utterly at variance with those of the all-round architect. He might pass muster in a design for market sheds or a railway station; but his design for, say, a concert-room or winter-garden, or even pier, would be sure to shock the trained architect. A specialist in a branch of architecture, say, hospitals, unless he had also "cut his teeth" on the other branches of building, would be likely to produce very unsatisfactory designs. Instances of specialists' architecture may be seen in many of the buildings erected for hospitals, police-stations, barracks, prisons, and other structures which are usually designed by the officials of departments, who devote themselves exclusively to these

branches. We concede to these officials considerable skill in plan and knowledge of the regulations; in many of them one sees the education of the architect who has turned his special attention to one class of practice. But if the official architects of the Government were to be trained for their special work, exclusive of a general knowledge of architecture, we should expect to find much less satisfactory results. Yet it is this exclusive training that is advocated by the school of architectural separatists, if we may so call them, who would confine the instruction of the architectural student to that branch which he preferred to follow, who would instruct and train some to design furniture and metalwork, others churches, schools, or hospitals, others to become decorative designers, and so on. It is against this exclusive study of one branch that we protest, as it would make a number of human machines or narrow-minded experts.

Speaking of specialism in science at the British Association, MacMahon referred to the term "specialist" as "a term of opprobrium, or as a symbol of narrow-mindedness." He was declared to be a man "who ran after truth in intellectual blinkers; who wilfully restrained himself from observing the work of others, and aimed at absolute independence as the one thing to be desired." This fairly describes the specialist in art; he is blind to all other qualifications but his own, unheeding of what others have accomplished; he despises all art qualifications if he happens to be a practical man. In his rejection of all traditional forms of art, he becomes



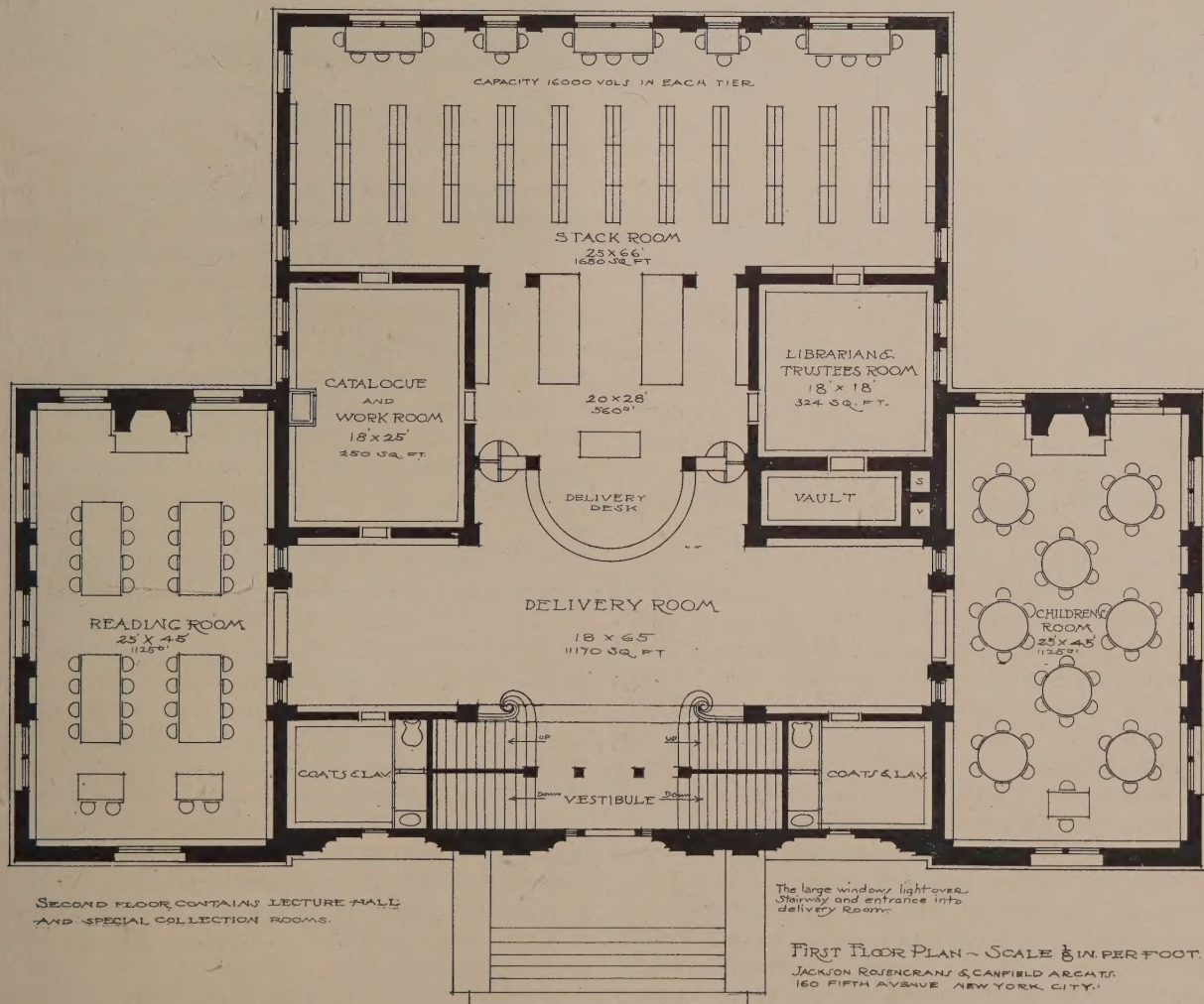
a slave to his own personal whims and narrow-minded views, says the *London Building News*.

The question raised may be considered in various ways. Is it possible to separate design from construction? According to the latter class of teachers—those we have called “separatists”—it may be. They regard design as something quite distinct from construction. According to this view, the architectural draughtsman is a designer of buildings, and whatever he may express on paper, so long as it is controlled by certain rules or prescriptions of art, is independent of materials and workmanship, and is a pursuit of its own. The man who designs an impossible piece of construction, such as a cornice or a detail for stone that can only be made in plaster, is still a designer in this sense, for his art is not subject to any limitations—a view quite the contrary to that held by all architects in the honest sense. In fact, the right term to apply to such design is that applied by Pugin—“constructed decoration”; that is, the design must be carried out, however faulty it may be as a piece of construction.

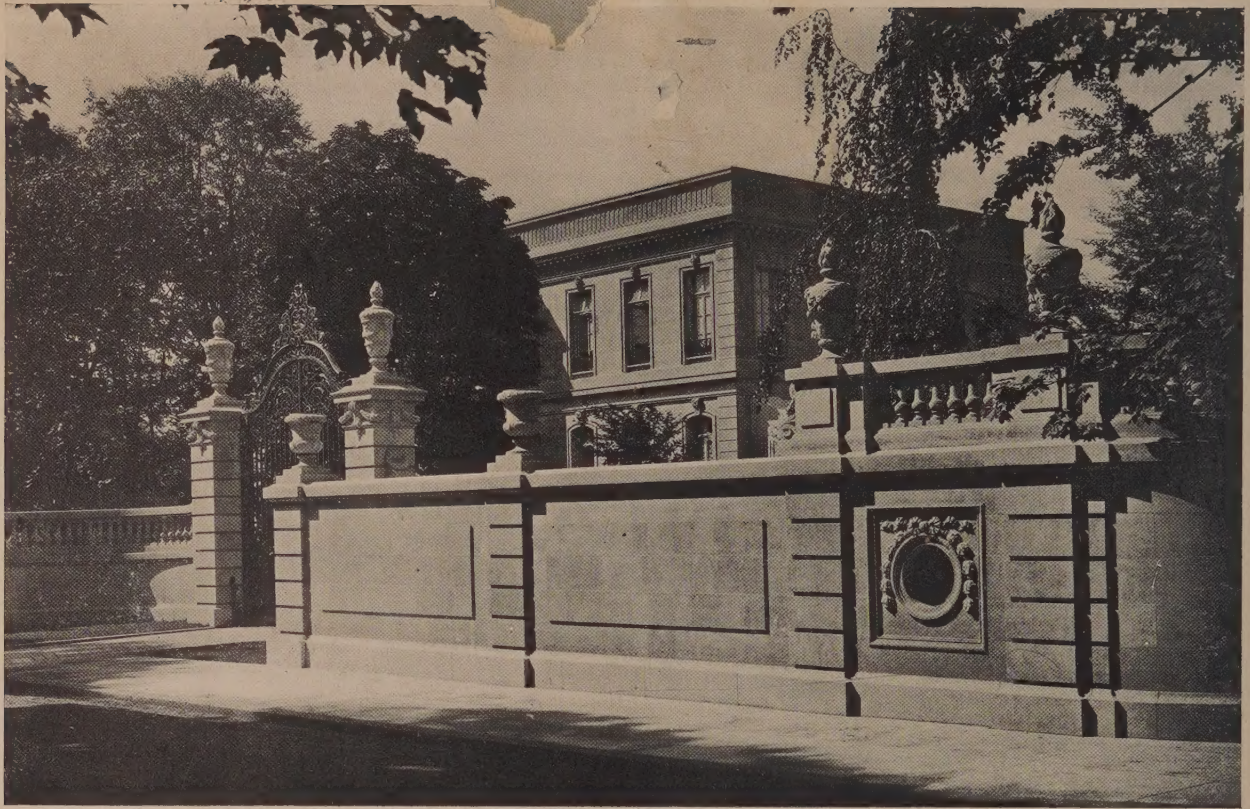
This was so with many of the early Classic and Gothic buildings of the Revival. They were designed often in complete disregard of honest construction, as in the

plaster-groined vault and meaningless buttresses and arches. Their builders were chiefly engaged in constructive design instead of designing construction, thus putting the cart before the horse; in other words, trying to adapt constructive expedients to design. Or the question may be put in another way. Can construction be studied apart from design?—which is the usual constructors’ way of looking at it. The ordinary specialist in engineering construction asserts that it can. He does not trouble about design, but he adapts his materials in the roughest manner; he is represented by the practical rule-of-thumb engineer. We know his work when we see it—cumbersome, or excessively fragile, without proportion or good detail. Yet it is possible to construct in a manner without any forethought or study of the relation of part to part, whereas it is not easy to design without knowing how to construct. There can be no good construction apart from thought and arrangement, which imply design. But of the two it is more logical to place construction before design, as this is the natural order.

To return to the original question, “Should design and construction be separated so as to train specialists in each of these lines?” The answer given by the







W. A. Cooper, Photo.

Horace Trumbauer, Architect.

ENTRANCE GATE AND WALL, RESIDENCE, E. J. BERWIND, NEWPORT.

Toronto Architectural Eighteen Club goes to the root of the matter, and distinguishes between the two sorts of specialism we have described. They say these departments should not be separated, "because a specialist is one who, in *addition* to the *ordinary* knowledge of his craft acquires a special knowledge of one line—not one who has acquired a knowledge of one line only of the general knowledge of his craft." We have already shown the undesirability of becoming a specialist in the latter sense. It is easy to apply this dictum to any of the crafts employed in building as well as to the profession of architecture. The practice in this country at least is to ground the pupil; to instruct him in the general elements of his art, and then to apply his talents in that direction which he desires to follow. A young man apprenticed, say, to the trade of a carpenter or joiner, is first taught the use of his tools, how to set out framing of various kinds, how to put together roofs as well as to frame a door, or make a window; but he ultimately is put to one line of work for which he is more capable, say door-framing or staircase work. In this class of work he becomes proficient, and obtains higher wages. So in the other trades. The master man discovers his fitness or bent for any particular line. Prof. White, of Illinois University, speaking from experience, says both design and construction should receive equal consideration in a college training, for rarely is a student capable of selecting his specialty;—others

estimate his strong points sooner than he can. Being equally trained in both branches, he can more easily determine the line of work he is best adapted for. A special knowledge of one line can be acquired properly only after other lines have been studied up to a certain point: a question that leads to further considerations of the architect's work. Thus it is obvious that a specialist in any branch of construction must know something of other branches. He must know the usual way of designing buildings for various uses, something of their style and treatment, before he can adapt his construction to various purposes. The expert in steel construction must know how he can apply his work to any particular purpose, such as a tier or gallery of a theatre, to the construction of a dome or roof. He may follow the architect's design generally, but he has constantly to exercise his ingenuity in arranging his materials to meet points and to suggest other methods than the design indicates if his services have to be of any value. A general knowledge of ruling types must be learned before the specialist in hospitals can decide upon any principle to guide him in his designs. It would be impossible for the architect who takes up one line to close his eyes to all others—to wilfully blinker them; for such a course would so narrow his range of design that his work would have little save mechanical qualities to commend it.

(To be concluded.)



# S O L A R P R I S M S

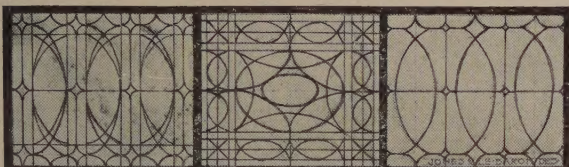
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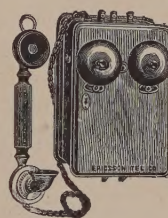
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Horace Trumbauer, Architect.

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WHEN President Hardenbergh rapped for order at the monthly meeting of the League, held on Tuesday, December 3, he faced an audience which completely filled the room. The efforts of the House Committee had made the members present feel well satisfied with themselves, and after the transaction of the usual routine business Mr. William Laurel Harris opened the discussion of the evening with an historical resume of ecclesiastical stained glass. Mr. Harris's remarks were accompanied by a series of lantern slides illustrating the history of the early workers in this art, which was further supplemented by a number of paintings by Mr. Harris, which were hung upon the walls.

Mr. John LaFarge followed Mr. Harris in a short address, in which he wandered considerably from the particular topic under discussion, and while refuting the statement that good work could not be produced in modern times, referred to his Japanese experiences, and declared that the demand for good things in glass, or in any

other branch of art, would produce the men who could satisfy that demand.

A number of the members of the clergy were also present and Fathers Cullen and Smith of the Paulist Church joined in the discussion, and in turn were followed by Father Lavelle of the Cathedral, who brought greetings to the League as the representative of Archbishop Corrigan.

The burden of the remarks of the reverend gentlemen was the need of a simple hand-book prepared by competent authorities in church architecture and decoration, which could be placed in the hands of the clergy as a guide to proper work.

All of the committees concerned in the work for the coming exhibition reported progress. Resolutions were passed upon the death of John R. Thomas, and a committee of three appointed to draft resolutions upon the death of Henry L. Morgan.

THE following competitions for the Season of 1901-1902 will be held under the auspices of the Architectural League of New York: Gold medal, a library for a suburban town; Henry O. Avery prize, caryatide for mantel in Louis Quinze style; President's prize, mural paintings, representing Architecture and the allied arts, to be placed in the two spandrels between windows in the main room of the Architectural League.